

Appl. No. 10/780,512
Reply to Office Action of September 19, 2005

Attorney Docket No. 2003.0461 / 24061.520
Customer No. 42717

REMARKS

Claims 1-25 are present in the application. In view of the following remarks, reconsideration is respectfully requested.

Dependent Claims 4 and 24

Applicants have previously pointed out that dependent Claims 4 and 24 read onto the elected embodiment of Figure 8B. Despite this argument, the Examiner has maintained Claims 4 and 24 as withdrawn, asserting that they do not read onto Figure 8B. The withdrawn status of these claims is respectfully traversed. In more detail, the present Office Action quotes the original language from one of these claims, and states that this original language does not read on the elected embodiment of Figure 8B. However, the question of whether the original claim language reads on Figure 8b is moot, because Claims 4 and 24 were each amended in Applicants' last Response (filed on June 29, 2005). The issue is whether the current wording of Claims 4 and 24 reads onto Figure 8B. In this regard, the Examiner apparently believes that, once a claim is withdrawn based on its original wording, the claim remains permanently withdrawn. However, this approach is contrary to well-established PTO practice. For example in the PTO rule change that took effect on July 30, 2003, the comments regarding Rule 121 state that:

Combining the status identifiers (withdrawn) and (currently amended) into a single status identification, e.g. (withdrawn-currently amended), may be used in those situations where a claim has been previously withdrawn as non-elected but applicant wishes to amend the claim in an effort to rejoin the withdrawn (non-elected) claim with the elected invention.
(68 F.R. 38617, June 30, 2003).

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Applicants' last Response took exactly this approach, in particular by designating Claims 4 and 24 as "(Withdrawn - currently amended)", and by amending these two claims so as to rejoin them with the elected invention. MPEP §821.01 points out that, where an applicant presents a traverse, "the examiner should reply to the reasons or arguments advanced by applicant in the traverse". In the present situation, the Examiner has failed to do so, because the Examiner focused on the original wording of Claims 4 and 24, whereas the reasons and arguments presented by Applicants were properly based on the amended wording of Claims 4 and 24. Since the Examiner has failed to comply with this PTO requirement, it is respectfully submitted that the present Office Action is not complete, and that it needs to be replaced with an Office Action that properly complies with all PTO requirements. A further consideration is that, since amended Claims 4 and 24 very clearly read onto the elected embodiment of Figure 8B, Claims 4 and 24 were entitled to be examined on the merits. Since the present Office Action fails to consider them on the merits, the Office Action is not complete, and needs to be replaced with a new Office Action that properly considers Claims 4 and 24 on the merits.

Second Paragraph of 35 U.S.C. §112

The Office Action rejected Claims 2, 6 and 20 under the second paragraph of 35 U.S.C. §112 as indefinite.

As to Claim 6, Applicants respectfully traverse the §112 rejection. More specifically, Claim 6 uses the word "about", and the Office Action asserts that the word "about" in Claim 6 is indefinite because it is a relative term. However, as Applicants have previously pointed out, MPEP §2173.05(b) discusses relative terminology such as "about", "essentially", and "substantially", and acknowledges that such "broadening modifiers are standard tools in claim drafting in order to avoid reliance on the doctrine of equivalents in infringement actions". MPEP §2173.05(b) explains that:

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The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. . . . Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification. (Emphasis added).

In other words, relative terminology is not automatically indefinite, but instead must be evaluated in the context of the specific facts of each application. In the present application, the §112 rejection of Claim 6 does nothing more than make a vague and conclusory assertion of indefiniteness. This is not sufficient to comply with PTO requirements. As noted above, MPEP §2173.05(b) specifies that use of the word "about" in a claim does not automatically render that claim indefinite. In fact, a brief search in the patent database at the PTO Web site shows that, in the last 30 years alone, the PTO has issued nearly 750,000 patents in which the claims contain the word "about". Stated differently, approximately 26% of the U.S. patents issued during the last 30 years have the word "about" in the claims. If the Examiner believes that the word "about" presents a problem of indefiniteness in the context of the specific subject matter and specific wording of Applicants' claims, the Examiner has the burden of providing a clear and detailed explanation of precisely why the specific context involves indefiniteness. The Examiner has failed to do so here. Instead, the Examiner merely makes the vague assertion that:

The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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This assertion is "canned" language, and does not contain a single word that is specific to the particular subject matter, context or wording of Applicants' claims. In effect, this "canned" language asserts that the word "about" is automatically objectionable. However, this approach is directly contrary to the MPEP. As noted above, the MPEP specifies that use of "about" in a claim "does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph". MPEP §2173.05(b) goes on to state that "about" is not automatically indefinite, and that "as a general proposition, broadening modifiers are standard tools in claim drafting to in order to avoid reliance on the doctrine of equivalents". On page 3 of the present Office Action, the Examiner complains that Applicants' prior argument on this point is "general" rather than "specific". However, this is merely a reflection of the defect in the rejection. The Examiner improperly makes a rejection that is general rather than specific, and since Applicants' responsibility is to respond to the rejection as presented, Applicants' argument is likewise general rather than specific. The Examiner seems to assume that, if the Examiner merely notes the presence of the word "about" in a set of claims, the burden is placed on Applicants to prove that each such occurrence of "about" is definite. However, this approach is directly opposite to PTO requirements. In particular, the burden is on the Examiner to establish that a claim limitation is not definite, and the Examiner has failed to carry that burden here. Accordingly, since the present Office Action improperly treats the word "about" as being automatically indefinite, without giving any detailed and factual reason as to why this word might possibly be considered indefinite in the specific context of the subject matter recited in Claim 6, it is respectfully submitted that the §112 rejection of Claim 6 is inherently improper, and must be withdrawn.

Turning to Claims 2 and 20, Applicants respectfully traverse the §112 rejection of each of these claims. More specifically, Claims 2 and 20 each use the word "sharp", and the Office Action asserts that the word "sharp" is indefinite because it is a relative term. The approach taken in this §112 rejection of Claims 2 and 20 is the same basic approach taken in the §112 rejection of Claim 6 for use of the word "about". In particular, the Office Action improperly

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treats the word "sharp" as being automatically indefinite, without giving any factual reason as to why "sharp" might possibly be considered indefinite in the specific context of the subject matter recited in either Claim 2 or Claim 20. Accordingly, for the same basic reasons discussed above in association with Claim 6, it is respectfully submitted that the §112 rejection of Claims 2 and 20 is inherently improper, and should be withdrawn.

Independent Claim 16

Independent Claim 16 stands rejected under 35 U.S.C. §102 as anticipated by Tsuji U.S. Patent No. 6,291,835. This ground of rejection is respectfully traversed, for the following reasons.

The PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Claim 16 of the present application expressly recites "a seal ring enclosing said semiconductor device structures". The Office Action explains the §102 rejection on page 4, asserting that the single drawing of Tsuji discloses a seal ring at 4. However, Applicants have previously pointed out that, although the element 4 in Tsuji may at first glance look somewhat like a seal ring, it is not really a seal ring. In particular, Tsuji explains at lines 51-52 of column 2 that the element 4 is actually:

A scribed line 4 for separating the chips in the semiconductor integrated circuit board 1 It should be noted that the hatched range of the scribed line 4 shows the range where a metal such as aluminum etc. is formed at the same time as the in-chip circuit regions 2, in order to facilitate observation at the time of the processing of separation grooves.

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In the paragraph bridging pages 9-10 of the Office Action, the Examiner attempts to salvage the §102 rejection by arguing that the scribe line 4 of Tsuji is really a seal ring. First, the Office Action points to lines 42-44 in column 1 of Tsuji, and asserts that they show the element 4 of Tsuji is a seal ring. However, lines 42-44 in column 1 are part of the "Background" section of Tsuji, and they discuss a prior art device. Lines 42-44 in column 1 do not discuss Tsuji's device, much less the scribe line 4 that is part of Tsuji's device. Second, the Office Action points to lines 52-58 in column 2 of Tsuji, and asserts that they show the element 4 of Tsuji is a seal ring. However, it is respectfully submitted that there is nothing in lines 52-58 of column 2 that even remotely suggests the element 4 is structurally or functionally comparable to a seal ring. Third, the Examiner goes on to indicate that the scribe line 4 of Tsuji facilitates "separating the chips and securing a large effective area for the chip when the chip is cut out", and then asserts that this means the scribe line 4 "has the same function as the seal ring". Applicants respectfully disagree. The function of "separating the chips and securing a large effective area for the chip when the chip is cut out" is a function of a scribe line, rather than a seal ring. Persons skilled in the art are familiar with what a seal ring is, and will readily recognize that what Tsuji refers to as a scribe line is in fact a scribe line, and not a seal ring, much less a seal ring with the unique characteristics recited in Applicants' Claim 6. Applicants drawings and specification disclose a scribe line at 26 in the right side of Figure 5, and also disclose a seal ring in the left side of Figure 5. Persons skilled in the art might find Tsuji's scribe line 4 to be comparable to Applicants' scribe line, but would not consider Tsuji's scribe line 4 to be even remotely comparable to Applicants' seal ring. Since Tsuji clearly fails to disclose anything that is even remotely comparable in structure or function to a seal ring, much less Applicants' distinctive seal ring, Tsuji fails to disclose each and every element recited in Claim 16, and thus does not anticipate Claim 16 under §102. Accordingly, Claim 16 is believed to be allowable over Tsuji, and notice to that effect is respectfully requested.

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Independent Claim 1

Independent Claim 1 stands rejected under 35 USC §103 on the ground that it would be obvious over Tsuji, considered in light of Ma U.S. Patent No. 6,509,622. This ground of rejection is respectfully traversed. In this regard, the PTO recognizes in MPEP §2142 that:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

Applicants respectfully submit that Tsuji and Ma fail to establish a *prima facie* case of obviousness under §103 with respect to Claim 1, for the mutually exclusive reasons that are discussed below.

TSUJI DOES NOT TEACH WHAT THE OFFICE ACTION SAYS IT DOES

The Office Action asserts that the single drawing of Tsuji discloses a seal ring at 4. However, as discussed above in association with Claim 16, persons skilled in the art are familiar with the general concept of a seal ring, and will readily recognize that the element 4 in Tsuji is a scribe line, rather than a seal ring. Tsuji does not disclose any structure that is even remotely comparable to a seal ring, and thus fails to teach what the Office Action says it does. Tsuji therefore fails to fulfill its intended role in the §103 rejection. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 1 is not obvious under §103 in view of the combined teachings of Tsuji and Ma, and notice to that effect is respectfully requested.

MA DOES NOT TEACH WHAT THE OFFICE ACTION SAYS IT DOES

To begin with, the Office Action takes internally inconsistent positions regarding what is

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disclosed by Ma. For example, on page 6, the Office Action asserts that the elements 211-215 of Ma are "a plurality of metal vias". On page 10, the Office Action asserts that "the elements 211-215 are via rings". But elsewhere on page 10, the Office Action asserts that, according to a dictionary definition, the elements 211-215 are not rings or metal parts, but instead that "the elements 211-215 of Ma are openings or holes". At the center of all these inconsistencies is an attempt by the Examiner to somehow establish that the elements 211-215 of Ma might possibly be called "vias", in order to meet a recitation of "vias" in Applicants' Claim 1. However, the elements 211-215 in Ma are not vias. More specifically, the elements 211-215 are each located in a dielectric layer that also contains some vias, but the elements 211-215 are not vias. Instead, they are each a continuous ring of metal that extends around the perimeter of a die. Persons skilled in the art are thoroughly familiar with what a "via" is, and will readily recognize that the elements 211-215 are not even remotely similar to what is normally considered to be a via. Thus, the Ma patent fails to teach what the Office Action says it does. Ma therefore fails to fulfill its intended role in the §103 rejection. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 1 is not obvious under §103 in view of the combined teachings of Tsuji and Ma, and notice to that effect is respectfully requested.

THE PROPOSED COMBINATION DOESN'T TEACH THE CLAIMED SUBJECT MATTER

Tsuji and Ma, even when combined, do not teach the subject matter of Claim 1. The provisions of MPEP §2142 specify with respect to §103 that:

To establish a *prima facie* case of obviousness . . . the prior art reference (or references when combined) must teach or suggest all the claim limitations. (Emphasis added).

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In the present application, Claim 1 recites that:

said plurality of layers of interconnected metal lines forms a
continuous seal ring around a die; and

wherein a first width of said metal lines at a corner of said
die is wider than a second width of said metal lines at edges of
said die.

Neither Tsuji nor Ma discloses a seal ring in which "a first width of said metal lines at a corner of said die is wider than a second width of said metal lines at edges of said die". Consequently, even if combined, these two prior art references do not teach all of the limitations recited in Claim 1. They therefore fail to establish a prima facie case of obviousness under §103. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 1 is not obvious under §103 in view of the teachings of Tsuji and Ma, and notice to that effect is respectfully requested.

In view of the various different reasons discussed above, it is respectfully submitted that Claim 1 is not rendered obvious under §103 by Tsuji and Ma. Claim 1 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2-8 and Claims 17-25 respectively depend from Claim 1 and Claim 16, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claims 1 and 16, respectively.

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Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Although Applicants believe that no fee is due in association with the filing of this Amendment, the Commissioner is hereby authorized to charge any additional fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



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Enclosure: None

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